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of greater stamens 2-3, clavellate-tipped, one-third longer than the uniporose anthers: capsule shortly obpyramidal, acutely triquetrous, 3 lines broad; seeds obconical, muriculate, pale with a red aril.—Damp rocks in the Pansamalá forests, alt., 3,800 feet, Aug., 1886. (Ex. Pl. Guat. cit. 726.)

Myriocarpa heterostachya. (*M. heterospicata*, BOT. GAZETTE, xii. 133.)—Monœcious and diœcious.—More recent specimens exhibit male and female spikes borne on distinct plants, as well as in distinct axils of the same plant.—Forests of Pansamalá, alt. 4,000 feet, Jan., 1887. (Ex. Pl. Guat. cit. 366.) The opportunity is seized to correct also the hybrid name first given.

Baltimore, Md.

Uncinula polychæta B. & C.

S. M. TRACY AND B. T. GALLOWAY.

Although this species has been known for more than ten years, it is believed that an attempt to reconcile the differences in published descriptions, with the addition of such facts as have been noted in a recent examination of fresh specimens collected on Sand creek, five miles east of Starkville, Miss., will be of interest to mycologists.

The most important bibliography of the species is here given. The earliest published description is by Berkeley and Curtiss, in *Grevillea*, vol. iv, p. 159, 1875-76, as follows: "*Uncinula pleochæta*. Perithecia scattered, appendages about 28, $1\frac{1}{2}$ times longer than the diameter of the perithecium, hyaline. On leaves of *Celtis occidentalis*. Carolina. No. 5619." In Saccardo's *Sylloge Fungorum*, vol. i, p. 9, occurs the following (translation): "*Pleochæta*. Saccardo and Spegazzini. Michel. ii, p. 373. Perithecia imbedded in the mycelium, globose-lenticular, without aperture, texture subcoriaceous, parenchymatous, appendages very numerous, radiating, clavate, straight, simple, forming a hyaline band. Asci clavate, two-spored, spores rarely oval, without septa, sub-hyaline. Appendages very close together, straight, sub-hyaline at the base, asci smooth, etc. Separated from *Erysiphe* and *Uncinula*. *P. Curtisii*. Sacc. and Spez. Fung. Arg. Pug. ii, p. 44. *Erysiphe* and *Uncinula polychæta* Berkeley and Curtis, Grev. 1876, p. 159. *Uncinula Lynckii*

Spez. Fung. Arg. Pug. ii, p. 17, no. 54. Mycelium hyphyllous in orbicular whitish spots, perithecia scattered, appendages (about 28) half the diameter of the perithecia, hyaline; asci nodulose at the base, $80-90 \times 25-30 \mu$, two-spored, spores nearly oval $25 \times 17 \mu$, hyaline. Occurring on leaves of *Celtis* Talœ and *C. occidentalis* from Buenos Ayres. April, 1880. (Spez.) Alabama and Carolina. (Curtis.)"

M. C. Cooke, in "Notes on Perisporiaceæ of Saccardo's Sylloge Fungorum," published in *Grevillea*, xi, 1882, p. 35,

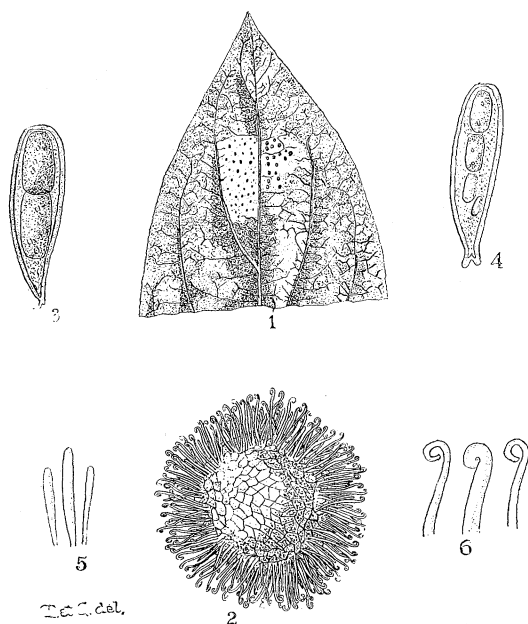


Fig. 1. Part of leaf, showing spot of *U. polychæta* B. & C. 2. Perithecium. 3. Two-spored ascus—common form. 4. Four-spored ascus. 5. Clavate appendages from immature perithecium. 6. Curled tips of appendages from mature perithecium.

takes issue with Saccardo on the formation of the new genus *Pleochaeta*, and insists that *P. Curtisii* Sacc. and Spez. is "a true *Uncinula*, with numerous appendages curled at the tips, just as in *U. adunca*, except that they are thickened upwards so as to be clavate;" and therefore it ought not to be adopted "as the type of a genus with straight appendages."

The *Journal of Mycology*, 1886, p. 43, says:

"*Uncinula polychæta* B. & C.—In the description of this species, published in *Grevillea*, vol. iv, p. 159, and in Sac-

Saccardo's *Sylloge*, vol. i, the number of appendages is said to be "about 28," and the number of asci is not stated. In a recent examination of South American specimens from Prof. Spegazzini, I found a perithecium (the only *mature* one examined) containing 50 two-spored asci, and surrounded by over 200 appendages, $114-120 \times 6-7 \mu$, hyaline, continuous, with attenuated, involute tips. Perithecia $225-230 \mu$ in diameter.

"The foregoing notes are also applicable to specimens of *Uncinula polychæta* B. & C. in Ravenel's *Fungi Caroliniani*. The species is remarkable for its numerous asci and appendages, but it seems unnecessary, on this account, to make it the type of a new genus. Possibly, the statement that the number of appendages is 'about 28' is a typographical error for 'about 228,' which would be nearer the actual number."

In his *Additamenta*, published in 1886, Saccardo, however, still adheres to his original name of *Pleochæta Curtisii* Sacc. and Spez., even in a description apparently re-written from that in the *Journal of Mycology*, as follows: "Perithecia $225-230 \mu$ in diameter, appendages numerous, about 200, hyaline, continuous, apex attenuated, incurved, asci about 50, two-spored."

In the specimens before us from Mississippi and Carolina, the mycelium is hypophyllous, in irregular whitish spots, as shown in fig. 1. Usually, but one such spot occurs on a leaf, and the mycelium is by no means abundant. The perithecia, which are irregularly scattered over the mycelium, are much larger than in any other American *Uncinula*, fresh specimens, collected in November, measuring $275-280 \mu$ in diameter. *U. spiralis* is usually $85-100 \mu$, and *U. circinata* sometimes reaches 175μ . Older specimens of *U. polychæta* measured $250-275 \mu$. The appendages vary from 250 to 300 or more, Berkeley and Curtis' "about 28" probably being a misprint for "about 280." On immature perithecia the appendages are all clavate, as described by Saccardo, but on mature specimens they become longer, $122-150 \mu$; the clavate form gradually merges itself into the coiled attenuate tips shown in fig. 6. Our material was abundant, and we found this change in form exhibited on every leaf examined. The "appendages clavate" of Saccardo and the "appendages curled at the tips" of Cooke are entirely harmonized by this knowledge.

The asci are broadly clavate, sometimes nodulose at the base, wall rather thick, quite regular in shape, and uniform

in size, hyaline: from 50 to 62 in each perithecium. Spores usually two, oval, sub-hyaline, nearly filling the ascus. Sometimes three or even four spores are found in an ascus. When three occur in an ascus two are of nearly the usual size and the third quite small, and when four occur all are small.

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BRIEFER ARTICLES.

Plan of a botanical laboratory—In the GAZETTE for November, 1887, Miss Lillie J. Martin published a plan of a botanical laboratory, which I

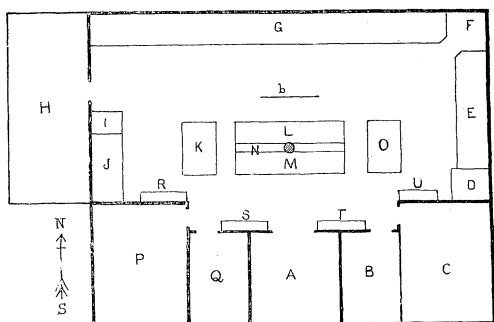


FIG. I.

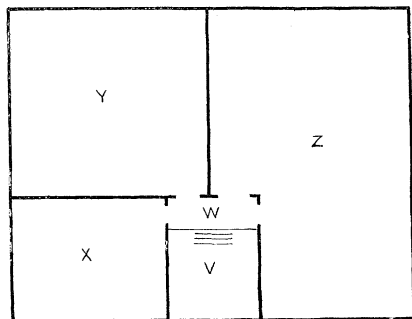


FIG. II.

Designed by S. Schönland.

Size 50 x 40 ft. Fig. I, ground floor, A, entrance hall, with stairway; B, dark room; b, blackboard; C, physiological laboratory; D, hood; E, tables for three advanced students; F, writing-desk; G, tables for twelve elementary pupils (there is room also for a second row); H, green-house; I, oven; J, sink; K, table for general use; L, for large bottles with spirit, distilled water, embedding apparatus, etc.; M, table for chemical work; N, racks for reagents; O, table for microtomes; P, professor's room; Q, room for chemical balance and other delicate instruments; R, S, T, U, cases.

Fig. II, second floor, V, stairway; W, landing; X, library and reading-room; Y, lecture-room, with cases for diagrams, etc.; Z, large room in which models, dried specimens and specimens in spirit are kept. This room may be provided with a gallery.